



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,497	02/06/2002	Brian John Cragun	ROC920010191US1	7229

7590 12/28/2006  
Grant A. Johnson  
IBM Corporation - Dept. 917  
3605 Highway 52 North  
Rochester, MN 55901

EXAMINER
----------

STERRETT, JONATHAN G

ART UNIT	PAPER NUMBER
----------	--------------

3623

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/068,497

Applicant(s)

CRAGUN ET AL.

Examiner

Jonathan G. Sterrett

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-20 and 22-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-20, 22-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Summary*

1. This application is responsive to the amendment of August 31, 2006. The amendment of August 31, 2006 amended claims 6-8, 10-12, 15, 18, 22-26, 29, and 30. Claims 6-20 and 22-40 are pending in the application.

### *Allowable Subject Matter*

2. The indicated allowability of claim 40 and the objection to claims 10-20 and 24-39 as being allowable if rewritten in dependent form is withdrawn in view of the newly discovered reference(s) to Lin. Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 101*

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claim 6-20 and 22-40** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Under the statutory requirement of 35 U.S.C. § 101, a claimed invention must produce a useful, concrete, and tangible result. For a claim to be useful, it must yield a result that is specific, substantial, and credible (MPEP § 2107). A concrete result is one that is substantially repeatable, i.e., it produces substantially the same result over and over again (*In re Swartz*, 232 F.3d 862, 864, 56 USPQ2d 1703, 1704 (Fed. Cir. 2000)). In order to be tangible, a claimed invention must set forth a practical application that generates a real-world result, i.e., the claim must be more than a mere abstraction (*Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77). Additionally, a claim may not

Art Unit: 3623

preempt abstract ideas, laws of nature or natural phenomena nor may a claim preempt every “substantial practical application” of an abstract idea, law of nature or natural phenomena because it would in practical effect be a patent on the judicial exceptions themselves (*Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972)). (Please refer to the “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” for further explanation of the statutory requirement of 35 U.S.C. § 101.)

Regarding **Claims 10, 15, 24, 26 and 40**, the claim’s preamble states that the claim is for scheduling. However, none of the cited limitations, taken together or individually claim that a meeting is rescheduled, therefore the claim does not provide a **tangible** result.

For example, **Claim 10** cites calculating a score “for automated meeting insertion and rescheduling”. It does not actually claim that a meeting is rescheduled, or even scheduled.

**Claim 15** cites “to identify a solution time block for automated meeting insertion and scheduling”. The use of “for” before “automated meeting insertion and scheduling” is intended use – the claim does not actually cite that a meeting is inserted or scheduled.

**Claims 24, 26 and 40** cites rescheduling, but does not cite a tangible result (e.g. printed, displayed or stored).

Thus, **Claims 10, 15, 24, 26 and 40** fail to provide a tangible result and thus are not statutory under 35 USC 101.

Additionally, **Claims 10, 15, 24, 26 and 40** do not provide a result that is substantially repeatable, as claimed.

For example, **Claim 10** cites calculating a conflict score based upon a move score that is decreased or increased depending on different elements. The claim cites that the conflict score includes the move score, but does not claim how. For example, an operation may be performed by one user where the conflict score includes the move score by way of multiplication. Another user may include the same move score by using addition. Thus the claim provides for a result that is not substantially repeatable.

Similarly **Claim 15** cites stored properties being used to calculate a conflict score for rescheduling. Again, since the claim does not cite how the properties are used to calculate the score, two different users can realize substantially different results, using the same data; therefore, the claim does not provide a substantially repeatable result.

**Claim 24** cites that stored meeting properties are used to identify a solution time block – here again, two different users can use the claim differently to realize two substantially different results. Similarly **Claim 26** utilizes stored meeting properties to reschedule. However, two different users could utilize those properties different ways to realize two substantially different results.

**Claim 40** calculates a conflict score, but does not claim how the score is calculated. The different properties that are stored and used in the calculation can be utilized, according to the claim limitations, in different ways by two different users to realize substantially different results, thus the claim is not substantially repeatable.

Art Unit: 3623

Because **Claims 10, 15, 24, 26 and 40** do not provide for substantially repeatable results, they are not statutory under 35 USC 101.

Because **Claims 6-9, 11-14, 16-20, 22, 23, 25, 27-39** depend on **Claims 10, 15, 24, 26 and 40**, above, they are not statutory under 35 USC 101 for at least the reasons cited above for **Claims 10, 15, 24, 26 and 40**.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 6-20 and 22-40** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **Claim 10**, the claim calculates a score based on data, however, it is not clear how the rescheduling and insertion that is claimed is structurally connected to the data that is recited at the end of the claim, therefore, the claim is indefinite.

Regarding **Claim 15**, the claim uses a score and a list to identify a time for insertion and rescheduling, however, it is not clear whether the insertion and rescheduling are one step or two (i.e. insertion to schedule and reschedule or if the insertion and rescheduling are intended to be the same step). Therefore the claim is indefinite.

Regarding **Claim 24**, the claim recites rescheduling based on the properties of each conflicting meeting. It is not clear what properties are being referred to in the

Art Unit: 3623

conflicting meeting. Are they properties relating to the timing of the meeting, the individuals who are to attend, the meeting location? The claim is indefinite.

Regarding **Claim 26**, a committee change event is identified and the step preceded by "whether" is cited whereby the change event is a required attendee for the meeting. The claim is indefinite because it is not cited how the results of the 'whether' limitation affect the rest of the claim, i.e related to the rescheduling as recited in the preamble.

Regarding **Claim 40**, the claim at the end cites a solution time block and then rescheduling. It is not clear why the method would reschedule if a "solution" time block (i.e. a time slot) is identified, if it in fact is identified as a solution time slot. The claim is indefinite.

Because **Claims 6-9, 11-14, 16-20, 22, 23, 25, 27-39** depend on **Claims 10, 15, 24, 26 and 40**, above, they are indefinite for at least the reasons cited above for **Claims 10, 15, 24, 26 and 40**.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3623

7. **Claim 6-20 and 22-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lin, C K Y**; "Microcomputer-based workforce scheduling for hospital porters", 1999, Journal of Management in Medicine v13n4 pp: 251, Dialog 02405180 116360139, (hereinafter **Lin**)

Regarding **Claim 40**, Lin teaches:

**storing meeting automation properties defined for each scheduled meeting; said stored meeting automation properties including a move premium value, a shorten premium value, a leave premium value, and a plurality of approval options for moving, shortening and for allowing attendees to leave early;**

Page 3 para 3, data characterizing the shifts (i.e. meetings) is stored – see also page 4 paras 1-7 – the various properties are stored to be used in scheduling for each shift (i.e. a meeting).

**storing meeting attendee automation properties defined for each attendee of each said scheduled meeting; said meeting attendee automation properties including an attendee role, an attendee commitment option for attending; an attendee selected notification option, and a plurality of approval options for moving, shortening and for allowing attendees to leave early;**

page 4 para 9-12, properties are stored for each of the porters (i.e. attendees). There are a plurality of attendee properties stored for each of the porters (i.e. attendees).



Lin teaches where information stored is used to effect scheduling and rescheduling of employees. Lin does not expressly teach the specific data recited in claim 40 regarding; however, these differences are only found in the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP § 2106.

**calculating an action list for each potential time block for automated meeting insertion and**

page 7 para 3, computations are performed to schedule the porters into each potential time block for the shifts for the hospital. Since more than one porters are being scheduled, thus a list of porters to be scheduled is maintained.

**rescheduling utilizing said stored meeting automation properties and said stored meeting attendee automation properties;**

page 7 para 3, the system will reschedule when altering input parameters (i.e. meeting properties specific to the schedule slots and to the people being scheduled)

**said action list including an entry for each meeting altered for automated meeting insertion and rescheduling; and**

page 6 para 4-12, the algorithm for shift scheduling keeps track of individuals who cannot be placed into particular time slots, i.e. it includes an entry for each movement of a porter from one schedule slot to another.

**identifying a solution time block for automated meeting insertion and rescheduling utilizing said calculated conflict score and action list of said potential time blocks.**

Para 7 page 3a, the porters are rescheduled based on the properties of the time slots and their own individual properties and whether they have been placed into a time slot that is feasible or not.

Lin does not teach in the porter scheduling method of using a score based on each time slot and minimizing that score to obtain an optimal schedule.

However, it is old and well known in the prior art, as taught by Lin, to use a scoring approach to evaluate alternatives to scheduling and minimizing the total score to optimize the schedule. On page 2 para 2, it is noted a scheduling approach that is used by Miller which calculates a cost (i.e. a score) and minimizes that score to achieve an optimal schedule by minimizing those costs (i.e. the score). Thus a schedule is generated which has minimal aversion costs.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lin, regarding using an algorithm for scheduling that takes into account properties of the individuals and slots to be scheduled, to include the step of using a scoring approach to scheduling, because it would provide an optimal score by using an algorithm to minimize the result.

**Claims 10, 15, 24 and 26** recites similar limitations to those of **Claim 40**, and are therefore rejected under the same rationale.

The dependent claims, **Claims 6-9, 11-14, 16-20, 22, 23, 25, 27-39**, as cited do not further distinguish the invention over the cited prior art.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khamooshi, Homayoun, "Network-based project planning and scheduling", 1996, Industrial Management + Data Systems v96n8 pp: 13, Dialog 2398030 117542172.

Alberto De Toni; Guido Nassimbeni; Stefano Tonchia; "An artificial, intelligence-based production scheduler", 1996, Integrated Manufacturing Systems v7n3 pp: 17-25, Dialog 02325278 86067498.

Abdallah, Mohamed H, "A knowledge-based simulation model for job shop scheduling", 1995, International Journal of Operations & Production Management v15n10 pp: 89-102, Dialog 1135741 97-85135.

Houghton, Erne; Portougal, Victo, " A planning model for just-in-time batch manufacturing", 1995, International Journal of Operations & Production Management v15n9 pp: 9-25, Dialog 01129497 97-78891

Duffie, Neil A; Prabhu, Vittaldas V, "Real-time distributed scheduling of heterarchical manufacturing systems", 1994, Journal of Manufacturing Systems v13n2 pp: 94-107, Dialog 00850902 95-00294

Ho, Chrwan-jyh; Narasimhan, Ram; Melnyk, Steve A.; Carter, Phillip L; "Research Framework for Investigating the Effectiveness of Dampening Procedures to Cope with MRP System Nervousness", 1992, International Journal of Operations & Production Management v12n6 pp: 30-43, Dialog 0633244 92-48184

Cai, X.; Goh, C.J.; Mees, Alistair I.; "Greedy heuristics for rapid scheduling of trains on a single track.", May , 1998, IIE Transactions , v30 , n5 , p481(13), Dialog 10301494 Supplier Number: 20869897.

Art Unit: 3623

Feo, Thomas A.; Bard, Jonathan F.; Holland, Scott D ;A" GRASP for scheduling printed wiring board assembly. (greedy randomized adaptive search procedure)", Feb , 1996, IIE Transactions , v28 , n2 , p155(11), Dialog 08777180    Supplier Number: 18331623.

Raman, Narayan, "Input control in job shops.", April , 1995, IIE Transactions , v27 , n2 , p201(9), Dialog 08037879    Supplier Number: 17099739

Maes, Pattie, "Agents that reduce work and information overload", Jul 1994, Communications of the ACM v37n7 pp: 30-40, Dialog 00877416    95-26808.

Burke, Edmund; Bykov, Yuri; Newall, James; Petrovic, Sanja; "A time-predefined local search approach to exam timetabling problems."

Andre US 6278978 teaches a method for using a scoring approach to rescheduling agents.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

Art Unit: 3623

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JGS 12-19-2006



C. Michelle Tarae

Primary Examiner

Art Unit 3623